



## WIND ENERGY PRODUCTION USING KITES AND GROUND MOUNTED POWER GENERATORS

### ABSTRACT

Systems and methods are described for creating low cost energy using kites connected to ground mounted equipment. In power mode the kites generate maximum energy by positioning the kite at a high angle of attack relative to wind direction. The kite is allowed to travel a distance limited only by the length of line attached. The opposite end of the line is attached to a reel capable of turning a shaft to create mechanical or electrical energy. Upon reaching a controlled length, the kite is repositioned to a minimum angle of attack relative to the wind to minimize energy required to retrieve the kite. The shaft rotation is then reversed thereby winding the line on the reel. Energy is expended in retrieval mode. The difference in energy during power and retrieval mode is the net energy gain available for useful work.